IN THE CLAIMS:

Please amend the claims as follows:

1.   (Currently Amended) A network element for providing service control point (SCP) or database node front end processing (FEP) service and routing data packets through a communications network, the network element comprising:

(a)   a first ~~communication~~ module capable of transmitting data packets to and receiving data packets from a [[first]] communications network, wherein the first module is adapted to receive a data packet from the communications network;

(b)   ~~a second communication module capable of transmitting data packets to and receiving data packets from a second communications network;~~

(c)   ~~a packet discrimination process for determining whether a data packet received from one of the first and second communications networks is intended for an SCP or database node that is provisioned to receive front end processing (FEP) service;~~

(d)   ~~a database access control (DAC) database containing information related to SCP or database nodes that are provisioned to receive FEP service;~~ and

(e)(b)   ~~a DAC process for querying the DAC database and modifying the received packet to include information returned by the DAC database~~ a second module for receiving the data packet and for forwarding the data packet to one of a plurality of SCP or database nodes being separate from the first network element and being without individual front end processors,

wherein the network element is adapted to provide FEP service for a ~~plurality of~~ the SCP or database nodes ~~being separate from the network element~~ and to eliminate the need for the SCP or database nodes to have individual front end processors.

2.   (Original) The network element of claim 1 wherein the received data packet is a signaling system 7 (SS7) signaling message.

3.   (Original) The network element of claim 2 wherein the SS7 signaling message is a transaction capabilities application part (TCAP) message signaling unit (MSU).

4.   (Original) The network element of claim 3 wherein the TCAP MSU contains a database query message.

5.   (Original) The network element of claim 1 wherein the ~~first~~ communications network is an SS7 network.

6.   (Original) The network element of claim 1 wherein the ~~second~~ communications network is an Internet protocol (IP) network.

7.   (Original) The network element of claim 1 wherein the ~~second~~ communications network is an asynchronous transfer mode (ATM) network.

8.   (Currently Amended) The network element of claim 1 wherein the first ~~communication~~ module is a signaling system 7 (SS7) link interface module (LIM).

9.   (Currently Amended) The network element of claim 1 wherein the second ~~communication~~ module is an Internet protocol (IP) database communication module (DCM).

10.   (Currently Amended) The network element of claim 1 ~~wherein the DAC~~ comprising a database access control (DAC) database, wherein the DAC

database includes a plurality of records and each DAC database record includes an IP network address associated with [[an]] <u>one of the</u> SCP or database [[node]] <u>nodes</u>.

11.   (Currently Amended) The network element of claim [[1]] <u>10</u> wherein the DAC database includes a plurality of records and each DAC database record includes operational status information associated with [[an]] <u>one of the</u> SCP or database [[node]] <u>nodes</u>.

12.   (Currently Amended) The network element of claim [[1]] <u>10</u> wherein the DAC database includes a plurality of records and each DAC database record includes ownership information associated with [[an]] <u>one of the</u> SCP or database [[node]] <u>nodes</u>.

13.   (Currently Amended) The network element of claim [[1]] <u>10</u> wherein the DAC database includes a plurality of records and each DAC database record includes database protocol information associated with [[an]] <u>one of the</u> SCP or database [[node]] <u>nodes</u>.

14.   (Currently Amended) The network element of claim [[1]] <u>10</u> wherein the DAC database includes a plurality of records and each DAC database record includes service type identification information associated with [[an]] <u>one of the</u> SCP or database [[node]] <u>nodes</u>.

15.   (Original) The network element of claim 14 wherein the service type identification information identifies an advanced intelligent network (AIN) service.

16.   (Original) The network element of claim 14 wherein the service type identification information is a translation type (TT) value.

17. (Original) The network element of claim 14 wherein the service type identification information is a subsystem number (SSN).

18. (Original) The network element of claim 14 wherein the service type identification information identifies a calling name (CNAM) service.

19. (Original) The network element of claim 14 wherein the service type identification information identifies a line information database (LIDB) service.

20. (Original) The network element of claim 14 wherein the service type identification information identifies a toll free number (800) service.

21. (Original) The network element of claim 14 wherein the service type identification information identifies a local number portability (LNP) service.

22. (Original) The network element of claim 14 wherein the service type identification information identifies a presence service.

23. (Canceled)

24. (Currently Amended) The network element of claim [[1]] 10 wherein the DAC database is integral with and contained within the network element.

25. (Currently Amended) The network element of claim [[1]] 10 wherein the DAC database is located on an external database server communicatively coupled to the network element.

26. (Currently Amended) The network element of claim [[1]] 10 wherein data that comprises the DAC database is maintained in high speed, random access memory.

27.   (Currently Amended) The network element of claim [[1]] 10 wherein data that comprises the DAC database is maintained on high speed, optical disc storage media.

28.   (Currently Amended) The network element of claim 1 including a [[DAC]] protocol translation process for modifying the received data packet to include predetermined database protocol information.

29.   (Currently Amended) The network element of claim 28 wherein the [[DAC]] protocol translation process is capable of translating an SCP or database query to or from a structured query language (SQL) database protocol.

30.   (Currently Amended) The network element of claim 28 wherein the [[DAC]] protocol translation process is capable of translating an SCP or database query to or from an open database connectivity (ODBC) database protocol.

31.   (Currently Amended) The network element of claim 1 wherein the ~~packet discrimination process is adapted to examine~~ comprising a database access control process for examining a destination network address in the received data packet to identify one of the SCP or database nodes to which the packet is destined.

32.   (Original) The network element of claim 31 wherein the destination network address is an SS7 destination point code (DPC) and subsystem (SSN).

33.   (Currently Amended) The network element of claim 32 wherein, responsive to the SS7 DPC [[is]] being the same as an SS7 PC assigned to the network element, the database access control process is adapted to forward the data packet to one of the SCP or database nodes.

34.   (Original) The network element of claim 32 wherein the SSN corresponds to a SSN that is provisioned for FEP service.

35.   (Currently Amended) The network element of claim 1 ~~wherein the packet discrimination process is adapted to examine~~ <u>comprising a database access control process for examining</u> a translation type (TT) value in the received data packet <u>to identify one of the SCP or database nodes which the packet is destined</u>.

36.   (Currently Amended) The network element of claim 1 ~~wherein the packet discrimination process is adapted to examine~~ <u>comprising a database access control process for examining</u> a subsystem number (SSN) value in the received data packet <u>to identify one of the SCP or database nodes to which the packet is destined</u>.

37.   (Currently Amended) A method for providing service control point (SCP) or database node front end processing <u>(FEP)</u> service and for routing a data packet in a communications network, the method comprising:

providing, from a first network element <u>having a first SS7 point code (PC)</u>, FEP service for a plurality of SCPs being separate from the first network element and ~~eliminating the need for~~ <u>being without</u> individual front end processors ~~at the SCPs~~, wherein providing FEP service includes:

(a)   at the first network element ~~having a first SS7 point code (PC)~~, receiving a data packet having a first SS7 destination point code (DPC) from a first communications network;

    (b)   determining whether the received data packet is intended for an SCP or database node that is provisioned to receive front end processing (FEP) service;

    (c)   in response to determining that the received data packet is intended for an SCP or database node that is provisioned to receive FEP service, ~~performing a lookup in a database access control (DAC) database using key information contained in the received data packet;~~

    ~~(d)~~   modifying the received data packet ~~based on information returned by the DAC database lookup;~~ and

    ~~(e)~~(d)   transmitting the modified data packet to one of the SCPs over a second communications network.

38.   (Currently Amended) The method of claim 37 wherein ~~the key information includes a~~ comprising performing a lookup in a database access control (DAC) database based on key information in the received data packet to identify the SCP to which the data packet should be routed, wherein the key information includes subsystem number (SSN) value.

39.   (Original) The method of claim 37 wherein the received data packet is a signaling system 7 (SS7) signaling message.

40.   (Original) The method of claim 39 wherein the SS7 signaling message is a transaction capabilities application part (TCAP) message signaling unit (MSU).

41.   (Original) The method of claim 40 wherein the TCAP MSU contains an SCP or database query message.

42. (Original) The method of claim 37 wherein the first communications network is an SS7 network.

43. (Original) The method of claim 37 wherein the second communications network is an Internet protocol (IP) network.

44. (Original) The method of claim 37 wherein determining whether the received data packet is destined for an SCP or database node that is provisioned to receive front end processing (FEP) service includes examining the DPC value in the received data packet.

45. (Original) The method of claim 44 wherein determining whether the received data packet is destined for an SCP or database node that is provisioned to receive front end processing (FEP) service further includes examining a destination subsystem (SSN) value in the received data packet.

46. (Original) The method of claim 44 wherein the DPC is the same as the PC assigned to the first network element.

47. (Original) The method of claim 45 wherein the destination SSN value corresponds to a SSN that is provisioned for FEP service.

48. (Currently Amended) The method of claim 37 wherein ~~the key information includes the~~ comprising performing a lookup in a database access control (DAC) database based on key information in the received data packet to identify the SCP to which the data packet should be routed, wherein the key information includes the first DPC and a subsystem number (SSN) value.

49. (Currently Amended) The method of claim 37 wherein ~~the key information includes a~~ comprising performing a lookup in a database access control (DAC)

database based on key information in the received data packet to identify the SCP to which the data packet should be routed, wherein the key information includes a translation type (TT) value.

50.   (Currently Amended) The method of claim 37 wherein modifying the received data packet includes modifying a packet routing label in the received data packet based on information returned from a database access control (DAC) database.

51.   (Original) The method of claim 50 wherein modifying the routing label includes modifying the routing label based on SCP or database node operational status information contained within the DAC database.

52.   (Original) The method of claim 50 wherein modifying the routing label includes modifying the routing label based on SCP or database node congestion status information contained within the DAC database.

53.   (Original) The method of claim 50 wherein modifying the routing label includes modifying the routing label based on SCP or database node ownership information contained within the DAC database.

54.   (Original) The method of claim 50 wherein modifying the routing label includes modifying the routing label to include a destination IP network address.

55.   (Original) The method of claim 37 wherein modifying the received data packet includes changing a protocol of a database query statement contained in the received packet.

56.   (Currently Amended) The method of claim 55 wherein changing a protocol includes changing the protocol based on SCP or database node protocol information contained within the DAC a database.

57.   (Currently Amended) A network element for providing service control point (SCP) or database node front end processing (FEP) service and routing data packets through a communications network, the network element comprising:

(a)   a ~~communication~~ first module capable of receiving data packets from a first communications network and transmitting data packets to a second communications network, wherein the first module is adapted to receive a data packet from the first communication network;

(b)   ~~a packet discrimination process for determining whether a data packet received from the first communications network is intended for an SCP or database node that is provisioned to receive front end processing (FEP) service;~~

~~(c)~~   ~~a database access control (DAC) database containing information related to SCP or database nodes that are provisioned to receive FEP service; and~~

~~(d)~~   ~~a DAC process for querying the DAC database and modifying the received data packet to include information returned by the DAC database~~ a second module for receiving the data packet and for forwarding the data packet to one of a plurality of SCP or database nodes being separate from the network element and being without individual front end processors, wherein the network element is adapted to provide FEP service for a ~~plurality of~~ the SCP or database nodes ~~being separate from the network element~~ and to eliminate the need for the SCP or database nodes to have individual front end processors.

58. (Currently Amended) The network element of claim 57 ~~wherein the packet discrimination process is adapted to examine~~ comprising a database access control process for examining a subsystem number (SSN) value in the received data packet to identify one of the SCP or database nodes to which the packet is destined.

59. (Original) The network element of claim 57 wherein the received data packet is a signaling system 7 (SS7) signaling message.

60. (Original) The network element of claim 59 wherein the SS7 signaling message is a transaction capabilities application part (TCAP) message signaling unit (MSU).

61. (Original) The network element of claim 60 wherein the TCAP MSU contains a database query message.

62. (Original) The network element of claim 57 wherein the first communications network is an SS7 network.

63. (Original) The network element of claim 57 wherein the second communications network is an Internet protocol (IP) network.

64. (Currently Amended) The network element of claim 57 comprising a database access control (DAC) database, wherein the DAC database includes a plurality of records and each DAC database record includes an IP network address associated with [[an]] one of the SCP or database [[node]] nodes.

65. (Currently Amended) The network element of claim 57 comprising a database access control (DAC) database, wherein the DAC database includes a plurality of

records and each DAC database record includes operational status information associated with [[an]] one of the SCP or database [[node]] nodes.

66. (Currently Amended) The network element of claim 57 comprising a database access control (DAC) database, wherein the DAC database includes a plurality of records and each DAC database record includes ownership information associated with [[an]] one of the SCP or database [[node]] nodes.

67. (Currently Amended) The network element of claim 57 comprising a database access control (DAC) database, wherein the DAC database includes a plurality of records and each DAC database record includes database protocol information associated with [[an]] one of the SCP or database [[node]] nodes.

68. (Currently Amended) The network element of claim 57 comprising a database access control (DAC) database, wherein the DAC database includes a plurality of records and each DAC database record includes service type identification information associated with [[an]] one of the SCP or database [[node]] nodes.

69. (Original) The network element of claim 68 wherein the service type identification information is a subsystem number (SSN) value.

70. (Original) The network element of claim 68 wherein the service type identification information is a translation type (TT) value.

71. (Original) The network element of claim 68 wherein the service type identification information identifies a calling name (CNAM) service.

72. (Original) The network element of claim 68 wherein the service type identification information identifies a line information database (LIDB) service.

73.   (Original) The network element of claim 68 wherein the service type identification information identifies a toll free number (800) service.

74.   (Original) The network element of claim 68 wherein the service type identification information identifies a local number portability (LNP) service.

75.   (Original) The network element of claim 68 wherein the service type identification information identifies a presence service.

76.   (Currently Amended) The network element of claim 57 comprising a database access control (DAC) database for storing information regarding the SCP or database nodes, wherein the DAC database is integral with and contained within the network element.

77.   (Currently Amended) The network element of claim 57 comprising a database access control (DAC) database for storing information regarding the SCP or database nodes, wherein the DAC database is located on an external database server that is communicatively coupled to the network element.

78.   (Currently Amended) The network element of claim 57 comprising a database access control (DAC) database for storing information regarding the SCP or database nodes, wherein data that comprises the DAC database is maintained in high speed, random access memory.

79.   (Currently Amended) The network element of claim 57 comprising a database access control (DAC) database for storing information regarding the SCP or database nodes, wherein data that comprises the DAC database is maintained on high speed, optical disc storage media.

80.   (Original) The network element of claim 57 including a DAC protocol translation process.

81.   (Original) The network element of claim 80 wherein the DAC protocol translation process is capable of translating an SCP or database query to or from a structured query language (SQL) database protocol.

82.   (Original) The network element of claim 80 wherein the DAC protocol translation process is capable of translating an SCP or database query to or from an open database connectivity (ODBC) database protocol.

83.   (Currently Amended) The network element of claim 57 ~~wherein the packet discrimination process is adapted to examine~~ comprising a database access control process for examining a destination network address in the received data packet to identify one of the SCP or database nodes to which the packet is destined.

84.   (Original) The network element of claim 83 wherein the destination network address is an SS7 destination point code (DPC) and a subsystem (SSN).

85.   (Original) The network element of claim 84 wherein the SS7 DPC is the same as an SS7 PC assigned to the network element.

86.   (Original) The network element of claim 84 wherein the SSN corresponds to an SSN that is provisioned for FEP service.

87.   (Currently Amended) The network element of claim 57 ~~wherein the packet discrimination process is adapted to examine~~ comprising a database access control process for examining a translation type (TT) value in the received data

packet <u>to identify one of the SCP or database nodes to which the packet is destined</u>.

88.   (Currently Amended) A network routing element for routing signaling messages having a first signaling system 7 (SS7) network address, the network routing element being adapted to receive messages addressed to the first SS7 network address intended for processing by a service control point (SCP) or database node that resides in an Internet protocol (IP) network, the network routing element comprising:

(a)   a ~~communication~~ <u>first</u> module capable of receiving data packets from a [[first]] communications network and transmitting data packets to a second communications network<u>, wherein the first module is adapted to receive a data packet from the first communications network</u>;

(b)   ~~a packet discrimination process for determining whether a data packet received from the first communications network is intended for an SCP or database node that is located in an IP network;~~

(c)   ~~a database access control (DAC) database containing IP routing address information related to SCP or database nodes that reside in the IP network;~~ and

[[(d)]]<u>(b)</u>   ~~a DAC process for querying the DAC database and modifying the received data packet to include IP routing address information returned by the DAC database,~~ <u>a second module for receiving the data packet and for forwarding the data packet to one of a plurality of SCP or database nodes in the second communications network,</u>

the SCP or database nodes being separate from the network element and being without individual front end processors, wherein the second communications network comprises an IP network, and wherein the network element is adapted to provide FEP service for ~~a plurality of~~ the SCP or database nodes ~~being separate from the network element~~ and to eliminate the need for the SCP or database nodes to have individual front end processors.

89.   (Currently Amended) The network element of claim 88 ~~wherein the packet discrimination process is adapted to examine~~ comprising a database access control process for examining a subsystem number (SSN) in the received data packet to identify one of the SCP or database nodes to which the packet is destined.

90.   (Original) The network element of claim 88 wherein the received data packet is a signaling system 7 (SS7) signaling message.

91.   (Original) The network element of claim 90 wherein the SS7 signaling message is a transaction capabilities application part (TCAP) message signaling unit (MSU).

92.   (Original) The network element of claim 91 wherein the TCAP MSU contains a database query message.

93.   (Original) The network element of claim 88 wherein the first communications network is an SS7 network.

94. (Original) The network element of claim 88 wherein the first communications network is an Internet protocol (IP) network transporting IP encapsulated SS7 MSUs.

95. (Canceled)

96. (Canceled)

97. (Currently Amended) The network element of claim 88 comprising a database access control (DAC) database for identifying one of the SCP or database nodes to which the data packet should be forwarded, wherein the DAC database includes a plurality of records and each DAC database record includes an IP network address associated with an SCP or database node.

98. (Currently Amended) The network element of claim 88 comprising a database access control (DAC) database for identifying one of the SCP or database nodes to which the data packet should be forwarded, wherein the DAC database is integral with and contained within the network element.

99. (Currently Amended) The network element of claim 88 comprising a database access control (DAC) database for identifying one of the SCP or database nodes to which the data packet should be forwarded, wherein the DAC database is located on an external database server that is communicatively coupled to the network element.

100. (Currently Amended) The network element of claim 88 comprising a database access control (DAC) database for identifying one of the SCP or database nodes to which the data packet should be forwarded, wherein data that comprises the DAC database is maintained in high speed, random access memory.

101. (Currently Amended) The network element of claim 88 <u>comprising a database access control (DAC) database for identifying one of the SCP or database nodes to which the data packet should be forwarded,</u> wherein data that comprises the DAC database is maintained on high speed, optical disc storage media.

102. (Currently Amended) The network element of claim 88 including a <u>database access control (DAC)</u> protocol translation process <u>for translating the protocol of messages sent to one of the SCP or database nodes</u>.

103. (Original) The network element of claim 102 wherein the DAC protocol translation process is capable of translating an SCP or database query to or from a structured query language (SQL) database protocol.

104. (Original) The network element of claim 102 wherein the DAC protocol translation process is capable of translating an SCP or database query to or from an open database connectivity (ODBC) database protocol.

105. (Currently Amended) The network element of claim 88 ~~wherein the packet discrimination process is adapted to examine~~ <u>comprising a database access control process for examining</u> a destination network address in the received data packet <u>to identify one of the SCP or database nodes to which the packet is destined</u>.

106. (Original) The network element of claim 105 wherein the destination network address is an SS7 destination point code (DPC) and subsystem (SSN).

107. (Original) The network element of claim 106 wherein the SS7 DPC is the same as the first SS7 PC assigned to the network element.

108. (Currently Amended) The network element of claim 88 ~~wherein the packet discrimination process is adapted to examine~~ comprising a database access control process for examining a translation type (TT) value in the received data packet to identify one of the SCP or database nodes to which the packet is destined.

109. (Previously Presented) The network element of claim 1 wherein providing FEP service for a plurality of SCP or database nodes comprises providing front end processing service at a signal transfer point (STP).

110. (Previously Presented) The method of claim 37 wherein providing FEP service from the first network element comprises providing front end processing service from a signal transfer point (STP).

111. (Previously Presented) The network element of claim 57 wherein providing FEP service for a plurality of SCP or database nodes comprises providing front end processing service at a signal transfer point (STP).

112. (Previously Presented) The network routing element of claim 88 wherein providing FEP service for a plurality of SCP or database nodes comprises providing front end processing service at a signal transfer point (STP).